GML Ultra Manual Set

The following information reflects the changes that have been made to GML Ultra software that works with the ULTRA Plus. Use this Document Update in conjunction with the following GML Ultra publications dated February 1997:

- Getting Started Manual (publication 1398-5.10)
- User Manual (publication 1398-5.11)
- Reference Manual (publication 1398-5.12)

Getting Started Manual

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Add the following I/O configuration option sub-menu at the end of step 2 of the *Configuring User-Defined Input* section:

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Add the following information at the end of the *Defining I/O Configuration* section:

Configuring User-Defined Defaults

The default outputs settings determine the state that the outputs will be set to when a program is stopped. Each output can be set to either turn ON, turn OFF, or remain unchanged when program execution is halted. These settings affect the output if the program stops (for example, loss of enable, an error, or the end-of-program reached).

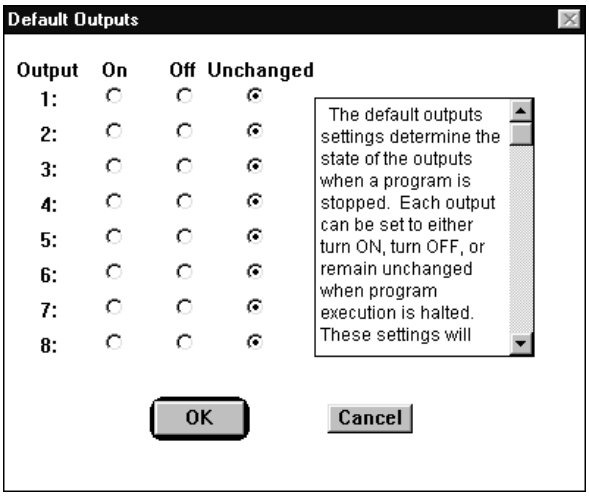
The default outputs settings only affect the nondedicated, general purpose outputs. The dedicated outputs that are enabled in the Configure Output dialog box are not affected by any selection of a default output.

ATTENTION: When an output is assigned a default of ON, personal injury or property damage could occur if the system E-stop circuitry does not override the controller's outputs when the state of the output is a safety hazard.

ATTENTION: When an output is assigned a default of ON, personal injury or property damage could occur because the output turns on when power is applied to the ULTRA Plus following the execution of the Auto Program (system program 0). If there is no Auto Program, the output will remain off.

To configure a default output:

1. From the menu bar, select **Definitions**. The Definitions menu appears.
2. Select **I/O Configuration**. The I/O Configuration menu appears.
3. Select **Defaults**. The Default Outputs dialog box appears:


Default Outputs
Output On Off Unchanged
1:
2:
3:
4:
5:
6:
7:
8:
The default outputs settings determine the state of the outputs when a program is stopped. Each output can be set to either turn ON, turn OFF, or remain unchanged when program execution is halted. These settings will
OK
Cancel

4. For nondedicated, general purpose outputs 1 to 8, make the following selections:

For output:	If you:	When program execution is halted and power is reapplied to ULTRA Plus after the execution of the Auto Program:
1	Select On	Regardless if output 1 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 1 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 1 is allowed to continue in the state it was in (on or off) when the execution of the program was halted.

For output:	If you:	When program execution is halted and power is reapplied to ULTRA Plus after the execution of the Auto Program:
2	Select On	Regardless if output 2 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 2 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 2 is allowed to continue in the state it was in (on or off) when the execution of the program was halted.
3	Select On	Regardless if output 3 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 3 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 3 is allowed to continue in the state it was in (on or off) when the execution of the program was halted.
4	Select On	Regardless if output 4 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 4 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 4 is allowed to continue in the state it was in (on or off) when the execution of the program was halted.
5	Select On	Regardless if output 5 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 5 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 5 is allowed to continue in the state it was in (on or off) when the execution of the program was halted.

For output:	If you:	When program execution is halted and power is reapplied to ULTRA Plus after the execution of the Auto Program:
6	Select On	Regardless if output 6 was on or off when the execution of the program was halted, it is turned off.
	Select Off	Regardless if output 6 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 6 is allowed to continue in the state it was in when the execution of the program was halted.
7	Select On	Regardless if output 7 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 7 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 7 is allowed to continue in the state it was in when the execution of the program was halted.
8	Select On	Regardless if output 8 was on or off when the execution of the program was halted, it is turned on.
	Select Off	Regardless if output 8 was on or off when the execution of the program was halted, it is turned off.
	Select Unchange	Output 8 is allowed to continue in the state it was in when the execution of the program was halted.

5. Select **OK**.

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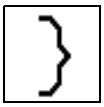
Add the following information at the end of the *Edit Value* block section:



End Scan Conditional

Use the End Scan Conditional block to end a sequence of blocks begun by the Start Scan Conditional block and executed if the expression in the Start Scan Conditional block is true. See the Start Scan Conditional block for more details.

The End Scan Conditional block does not require you to enter information.

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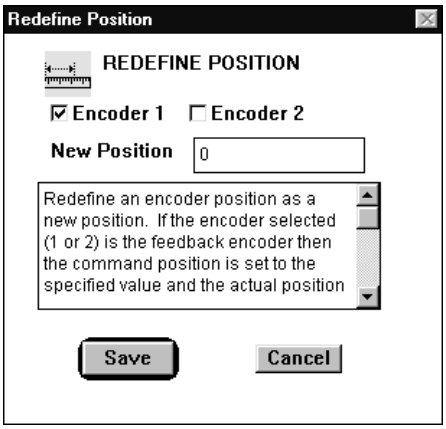
Replace the information in the *Redefine Position* block section with the following information:

The Redefine Position block allows you to set the actual or command position of the axis to a specific absolute or relative position. You can use the Redefine Position block when the axis is moving or at rest. This block does not cause motion; it simply redefines the current axis position.

Important: Use caution if you use this command while there is motion. The time delay caused by execution speed results in the zero position being defined at a position that is different than when the command was issued. The difference in position is proportional to the velocity of the motor when the command was issued. Any following error that is present when this instruction is executed is maintained; the actual position is not set to the commanded position.

To redefine an encoder position as a new position:

1. Double-click on the Redefine Position block. A dialog box similar to the following appears:


Redefine Position
REDEFINE POSITION
Encoder 1
Encoder 2
New Position
0
Redefine an encoder position as a new position. If the encoder selected (1 or 2) is the feedback encoder then the command position is set to the specified value and the actual position
Save
Cancel

2. Make an entry in the following fields:

Field	Description
Encoder 1	Select this to do one of the following, based on whether it was also selected in the Position Feedback field of the SERVO dialog box (see Configuring the Servo Axis in the Getting Started Manual) when the servo axis was initially configured, :

In the SERVO dialog box, if Encoder 1 was:	Then:
Selected	• The command position is set to the value you type in the New Position field. • The actual position is set to the value you type in the New Position field minus the following error.
Not selected	The actual position is set to the value you type in the New Position field.

Field	Description	
Encoder 2	Select this to do one of the following, based on whether it was also selected in the Position Feedback field of the SERVO dialog box (see Configuring the Servo Axis in the Getting Started Manual) when the servo axis was initially configured:	
	In the SERVO dialog box, if Encoder 2 was:	Then:
	Selected	• The command position is set to the value you type in the New Position field. • The actual position is set to the value you type in the New Position field minus the following error.
	Not selected	The actual position is set to the value you type in the New Position field.
New Position	Type (or use the Expression Builder to create) the mathematical expression that defines the new command position of the axis.	

3. Select **Save**. The dialog box closes. The diagram appears with the box checked to indicate that the parameters are set.

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Add the following information after the Slew Enable block section:

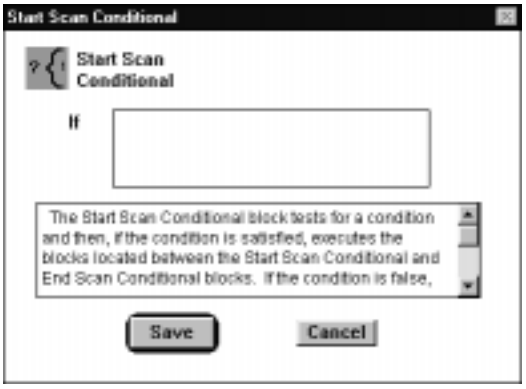
Start Scan Conditional

After the Start Scan Conditional block test, the program action is:

If the condition is:	Then:
True	Blocks located between the Start Scan Conditional and End Scan Conditional blocks are executed.
False	The program executes the block that follows the End Scan Conditional block.

To start the scan for a condition:

1. Double-click on the Scan Event Handler block. A dialog box similar to the following appears:


Start Scan Conditional
Start Scan Conditional
If
The Start Scan Conditional block tests for a condition and then, if the condition is satisfied, executes the blocks located between the Start Scan Conditional and End Scan Conditional blocks. If the condition is false,
Save
Cancel

2. Make an entry in the following field:

Field	Description
If	Type (or use the Expression Builder to create) the mathematical expression, which when true, allows the program to execute the blocks located between the Start Scan Conditional and End Scan Conditional blocks.

3. Select **Save**. The dialog box closes. The diagram appears with the block checked to indicate that the parameters are set.

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Page 1-3

Replace the information in the *Redefine Position* block section with the following information:

You can redefine an encoder position as a new position field:

If encoder 1 or 2 was selected when:	Then:
The servo axis was configured	• The command position is set to the value that you type in the New Position field. • The actual position is set by the program to the command position minus following error. • The Home Sequence Complete output (if selected in the Configure Output dialog box of the Definitions' I/O Configuration menu) and Home_Sequence_Complete_Flag are turned on.
The master axis was configured	The actual position is set to the value that you type in the New Position field.

Important: Use caution if you use this command while there is motion. The time delay caused by execution speed results in the zero position being defined at a position that is different than when the command was issued. The difference in position is proportional to the velocity of the motor when the command was issued. Any following error that is present when this instruction is executed is maintained; the actual position is not set to the commanded position.

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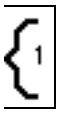
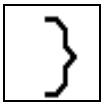
Add the following information after the *Define Scan Event* block section:



Start Scan Conditional

The program action taken after the Start Scan Conditional block test is as follows:

If condition is:	Then:
True	Blocks located between the Start Scan Conditional and End Scan Conditional blocks are executed.
False	The program executes the block that follows the End Scan Conditional block.



End Scan Conditional

Use the End Scan Conditional block to end a sequence of blocks begun by the Start Scan Conditional block and executed if the expression in the Start Scan Conditional block is true. See the *Start Scan Conditional* block for more details.

The End Scan Conditional block does not require you to enter information.

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